TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. § 371	Attorney Docket No. A56.12-0001
	U.S. Application No. 10/018602

INTERNATIONAL APPLICATION PCT/FR00/01680	INTERNATIONAL FILING DATE 16.06.00	PRIORITY DATE CLAIMED 16.06.999

TITLE OF INVENTION
METHOD AND SYSTEM FOR SECURE AND FAST VOICE IDENTIFICATION OF A NOMADIC OBJECT EMITTING AN AUDIBLE SIGNAL

APPLICANT(S) FOR DO/EO/US
ROSSET, Franck et al.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. [X] This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.

2. [] This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.

3. [] This is an express request to begin national examination procedures (35 U.S.C. 371(f). The submission must include items (5), (6), (9) and (20) indicated below.

4. [X] The US has been elected by the expiration of the 19th month from the priority date (Article 31).

5. [X] A copy of the International Application as filed (35 U.S.C. 371(c)(2))
    a. [X] is transmitted herewith (required only if not transmitted by the International Bureau).
    b. [X] has been communicated by the International Bureau.
    c. [ ] is not required, as the application was filed in the United States Receiving Office (RO/US).

6. [] A translation of the International Application into English (35 U.S.C. 371(c)(2)).
    a. [] is attached hereto.
    b. [] has been previously submitted under 35 U.S.C. 154(d)(4).
    c. [] is not required, as the application was filed in English

7. [] Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
    a. [] are attached hereto (required only if not transmitted by the International Bureau).
    b. [] have been transmitted by the International Bureau.
    c. [] have not been made; however, the time limit for making such amendments has NOT expired.
    d. [] have not been made and will not be made.

8. [] A translation of the amendment to the claims under PCT Article 19 (35 U.S.C. 372(c)(3)).

9. [] An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).

10. [] A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 37(c)(5)).

Items 11. to 17. Below concern document(s) or information included:
11. [] An Information Disclosure Statement under 37 CFR 1.97 and .198.

12. [] An assignment document for recording. A separate cover sheet in compliance with 37 C.F.R. 3.28 and 3.31 is included.

13. [] A **FIRST** preliminary amendment.

14. [] A **SECOND** or **SUBSEQUENT** preliminary amendment.

15. [] A substitute specification.

16. [] A change of power of attorney and/or address letter.

17. [] A second copy of the published international application under 35 U.S.C. 154(d)(4).

18. [] A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).

19. [X] Other items or information:
    a. [X] Front page only of International Publication No. WO 00/77751
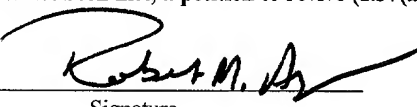   b. [] Abstract typed on a separate page.
    c.. [X] File data sheet.

U.S. APPLICATION NO.	INTERNATIONAL APPLICATION NO. PCT/FR00/01680	ATTORNEY'S DOCKET NUMBER A56.12-0001
10/018602		

20. [X] The following fees are submitted:	CALCULATIONS PTO USE ONLY

BASIC NATIONAL FEE (37 CFR 1.492(A)(1)-(5)):

Search Report has been prepared by the EPO or JPO.......................................$860.00

International preliminary examination fee paid to USPTO (37 CFR 1.482)
....$690.00

No international preliminary examination fee paid to USPTO (37 CFR 1.482) but
international search fee paid to USPTO (37 CFR 1.445(a)(2)).............................$710.00

Neither international preliminary examination fee (37 CFR 1.482) nor
international search fee (37 CFR 1.445(a)(2)) paid to USPTO.........................$1000.00

International preliminary examination fee paid to USPTO (37 CFR 1.482) and
all claims satisfied provisions of PCT Article 33(2)-(4).................................$ 100.00

ENTER APPROPRIATE BASIC FEE AMOUNT =	$860	
Surcharge of **$130.00** for furnishing the oath or declaration later than [] 20 [] 30 months from the earliest claimed priority date (37 CFR 1.492(e)).	$0	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	24 - 20 =	4	X 18	$72	
Independent claims	2- 3 =	0	X 80	$0	
MULTIPLE DEPENDENT CLAIM (S) (if applicable)			+ $280.00	$280	
		TOTAL OF ABOVE CALCULATIONS	=	$1,212	
[] Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				$606 -	
		SUBTOTAL	=	$606	
Processing fee of $130.00 for furnishing the English translation later than [] 20 [] 30 months from the earliest claimed priority date (37 CFR 1.492(f))				$0	
		TOTAL NATIONAL FEE	=	$606	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00** per property.			+	$0	
		TOTAL FEES ENCLOSED	=	$606	
			Amount to be: refunded	$	
			charged	$	

a. [X]   A check in the amount of $606.00 to cover the above fees is enclosed.

b. []   Please charge my Deposit Account No. **23-1123** in the amount of $ to cover the above fees.
        A duplicate copy of this sheet is enclosed.

c. [X]   The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment,
        to Deposit Account No. **23-1123**. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 C.F.R. 1.494 or 1.495 has not been met, a petition to revive (1.37(a) or (b)) must be filed and granted to restore the application to pending status.

Send all correspondence to:

WESTMAN, CHAMPLIN & KELLY, P.A.
Suite 1600 - International Centre
900 Second Avenue South
Minneapolis, MN 55402-3319

_____
Signature
Robert M. Angus
Reg. No.   24,383

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

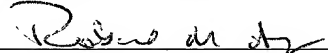|		
First Named Inventor	: Franck Rosset et al.	
Appln. No.:	10/018,602	
Filed	: December 17, 2001	Group Art Unit:
For	: METHOD AND SYSTEM FOR SECURE AND FAST VOICE IDENTIFICATION OF A NOMADIC OBJECT EMITTING AN AUDIBLE SIGNAL	Examiner:
Docket No.:	A56.12-0001	

PRELIMINARY AMENDMENT

Sir:

Please amend the above-identified application as follows:

IN THE SPECIFICATION

On Page 1, before line 1 and after the title, please add the following:

CROSS-REFERENCE TO RELATED APPLICATION

This application is a Section 371 National Stage application of International Application No. PCT/FR00/01680 filed June 16, 2000 and published December 21, 2000 as WO 00/77751, not in English.

On Page 1, between lines 5 and 6, please insert the following:

BACKGROUND OF THE INVENTION

On Page 2, between lines 17 and 18, please insert the following:

SUMMARY OF THE INVENTION

On Page 5, between lines 32 and 33, please insert the following:

BRIEF DESCRIPTION OF THE DRAWINGS

On Page 6, between lines 5 and 6, please insert the following:

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

IN THE ABSTRACT

Please insert the Abstract appended hereto as a separate page.

IN THE CLAIMS

Please amend claims 1 and 6 as follows:

1.(Amended)   A method enabling a user of a communications network, having a microphone connected to said communications network, to be securely and rapidly identified by another user of said communications network, notably a provider-user providing services to said user;

said method comprising the following steps:

the provider-user makes available to each of the relevant users, a mobile object, notably a card with the credit card format, customized by identifiers specific to each user and to each mobile object,

said mobile object emits short identification acoustical signals notably of the DTMF type, when it is actuated by the user, notably by means of a button,

the identification acoustical signals are received by the microphone and converted into electrical signals, before being transmitted via the communications network to the computer

department of the provider-user,

the computer department of the provider-user manages a data base containing the voice prints of the user,

the computer department of the provider-user extracts from the received electrical signals, the location of th area of the data base containing the identifiers and the voice print of the relevant user having emitted said identification acoustical signals by actuating said mobile object,

the user emits in clear a series of phonemes, by means of said microphone

said phonemes are processed by voice recognition means after the transmission to the computer department of the provider-user, via the communications network, and

the resulting signal is compared with said voice print of the relevant user, located at said location of the area of the database containing the voice print of the relevant user so that,

(i) only two voice prints are compared with each other,

(ii) a hacker having a stolen or closed card will not be able to usurp the identity of the legitimate bearer.

Claims 2-5 remain unchanged.

6.(Amended)   A system enabling a user of a communications network to be securely and rapidly identified by another user of said communications network, notably a user-service provider, providing services to said user,

said system comprising:

mobile objects made available to the users, notably a card with a credit card format, customized by identifiers specific to each mobile object and to each user; said mobile object including means for emitting short identification acoustical signals, notably of the DTMF type, actuated by the user by means of a component accessible from the outside of the mobile object,

-4-

microphones connected to said communications network,

(a) for receiving a transforming said identification acoustical signals from said mobile objects into first electronic signals which may be remotely transmitted by means of said communications network, and

(b) for receiving and transforming phonemes emitted in clear by the users, into second electronic signals which may be remotely transmitted by means of said communications network;

said system also comprising:

computing means, depending on the computer departments of the provider-user, connected to the communications network;

said computing means comprising:

a data base containing the voice prints of the users,

first processing means including means for extracting from said first signals, the location of the area of the data base containing the identifiers and the voice print of the relevant user having emitted said identification acoustical signals by actuating said component accessible from the outside of the mobile object,

second processing means including means for extracting said second signals, a representative signal of the voice print of the user,

comparison means including means for comparing

the voice print of the user contained in the said area of the data base, located in said location with said representative signal of the voice print extracted from said second signals.

Claims 7-10 remain unchanged.

REMARKS

The present amendment brings the claims into line with the claims that were appended to the International Preliminary Examination Report. Entry is respectfully solicited.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: _Robert M. Angus_
Robert M. Angus, Reg. No. 24,383
Suite 1600 - International Centre
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312

RMA:tas

MARKED-UP VERSION OF REPLACEMENT CLAIMS

1.(Amended)   A method enabling a user ~~(11)~~ of a communications network ~~(15)~~, having a microphone ~~(17)~~ connected to said communications network, to be securely and rapidly identified by another user ~~(12)~~ of said communications network, notably a provider-user providing services ~~(30)~~ to said user;

said method comprising the following steps:

—the provider-user makes available to each of the relevant users, a mobile object ~~(10)~~, notably a card with the credit card format, customized by identifiers specific to each user and to each mobile object,

—said mobile object emits short identification acoustical signals notably of the DTMF type, when it is actuated by the user, notably by means of a button ~~(14)~~,

—the identification acoustical signals are received by the microphone and converted into electrical signals, before being transmitted ~~(19)~~ via the communications network to the computer department ~~(18)~~ of the provider-user,

—the computer department of the provider-user manages a data base ~~(23)~~ containing the voice prints of the user,

—the computer department of the provider-user extracts ~~(21, 24)~~ from the received electrical signals, the location of th area of the data base containing the identifiers and the voice print of the relevant user having emitted said identification acoustical signals by actuating said mobile object,

—the user emits in clear a series of phonemes, by means of said microphone

—said phonemes are processed ~~(21, 24)~~ by voice recognition means after the transmission to the computer department of the provider-user, via the communications network, and

—the resulting signal is compared ~~(25)~~ with said voice print of the relevant user, ~~(so that a hacker having a stolen or closed card will not be able to usurp the identity of the~~

legitimate bearer)located at said location of the area of the database containing the voice print of the relevant user so that,

(i) only two voice prints are compared with each other,

(ii) a hacker having a stolen or closed card will not be able to usurp the identity of the legitimate bearer.

Claims 2-5 remain unchanged.

6.(Amended)   A system enabling a user (11) of a communications network (15) to be securely and rapidly identified by another user (12) of said communications network, notably a user-service provider, providing services (30) to said user,

said system comprising:

—mobile objects (10) made available to the users, notably a card with a credit card format, customized by identifiers specific to each mobile object and to each user; said mobile object including means for emitting (13) short identification acoustical signals, notably of the DTMF type, actuated by the user by means of a component (14) accessible from the outside of the mobile object, notably a button,

—microphones (17), notably microphones of telephone sets, connected to said communications network,

* on the one hand, (a)   for receiving a transforming (14) said identification acoustical signals from said mobile objects into first electronic signals which may be remotely transmitted by means of said communications network, and

* on the other hand, (b) for receiving and transforming (19) phonemes emitted in clear by the users, into second electronic signals which may be remotely transmitted by means of said communications network (15);

said system also comprising:

——computing means (21), depending on the computer departments (18) of the provider-user, connected to the

communications network;

said computing means comprising:

—a data base ~~(23)~~ containing the voice prints of the users,

—first processing means ~~(24)~~ including means for extracting from said first signals, the location of the area of the data base containing the identifiers and the voice print of the relevant user having emitted said identification acoustical signals by actuating said component accessible from the outside of the mobile object,

——second processing means ~~(24)~~ including means for extracting said second signals, a representative signal of the voice print of the user,

—comparison means ~~(25)~~ including means for comparing

—the voice print of the user contained in the said area of the data base, located in said location

—with said representative signal of the voice print extracted from said second signals.

Claims 7-10 remain unchanged.

ABSTRACT

METHOD AND SYSTEM FOR SECURE AND FAST IDENTIFICATION OF A MOBILE OBJECT EMITTING AN ACOUSTICAL SIGNAL

The method enables a user (11) of a communications network (15), having a microphone (17), to be identified by a service provider (12, 30) connected to the network.

The method comprises the following steps :

5   - the users have a mobile object (10) emitting (13) acoustical signals, the latter received by the microphone are converted into electrical signals and transmitted (19) to the computer department (18) of the provider-user,

- the computer department manages a database (23)
10   containing the voice prints of the users,

- the computer department extracts (21, 24) from the electrical signals, the location of the voice print in the database,

- the user emits phonemes in clear, after transmission,
15   the latter are processed (21, 24) by voice recognition means and compared (25) with said voice print.

Figure 1

METHOD AND SYSTEM FOR SECURE AND FAST IDENTIFICATION OF A MOBILE OBJECT EMITTING AN ACOUSTICAL SIGNAL

The field of the invention is that of the provision of remote services by operators to their client network subscribers, for example telecommunications, remote or home banking, call management center, e-commerce, virtual casino

5   operators.

More specifically, the invention relates to a method and a system with which an operator providing services may rapidly and securely identify the clients of their network.

The posed problem is to prevent an ill-intentioned user

10   from accessing a network providing services without being authorized to do so, without paying the relevant fees.

The use of access keys generated by memory cards and the alteration of telephone sets so that they may read memory cards, have been suggested to solve this problem. These

15   solutions, in addition to their cost, are not very practical and are long to implement. In fact, the posed problem can only be solved effectively if the solution to another problem is simultaneously known: design a convenient method and system for use, easy to implement and economical. Actually, as

soon as a large audience is targeted, ease of use and time-saving become major concerns which cannot be ruled out.

The use of a card emitting encrypted acoustical signals of the DTMF type has been suggested (document WO 96 04741 in the name of Andrew MARK). Hence, the bearer of such a card, by coupling the latter with the microphone of the telephone handset, automatically transfers his/her identifiers to the computer departments. As these identifiers are ciphered, it may be assumed that a third party will be unable to understand the contents. However, the recording of the signals emitted by the card remains possible and a hacker provided with such a recording may substitute himself/herself to the beneficiary of the card.

The objects aimed by the present invention are achieved and the problems posed by the techniques according to the prior art are solved by the method and system according to the invention.

With this method, a user of a communications network, having a microphone connected to said communications network, may be identified by another user of said communications network, securely and rapidly, notably by a provider-user providing services to said user.

In the sense of the present invention, a communications network notably means a computer network of the Internet type or a telephone network.

The method comprises the following steps:

- a mobile object, notably a card with a credit card format, customized by identifiers specific to each user and to each mobile object is made available to each of the relevant users, by the provider-user,

- said mobile object, emits short identification acoustical signals, notably of the DTMF type, when it is actuated by the user, notably by means of a button,

- the identification acoustical signals are received by the microphone and converted into electrical signals before being

transmitted by the communications network to the computer department of the provider-user,

- the computer department of the provider-user manages a database containing the voice prints of the users
5 (the bearers of legitimate mobile objects).

In the sense of the present invention, voice print means a set of characteristic parameters of a voice, these parameters depend neither on pronounced sentences, nor on the language used.

10 The method further comprises the following steps:

- the computer department of the provider-user extracts from the electrical signals which it receives, the location of the area of the database containing the identifiers and the voice print of the relevant user,

15 - the user emits in clear a series of phonemes, by means of said microphone; after transmission to the computer department of the provider-user, via the communications network, said phonemes are processed by voice recognition means and the resulting signal is compared with said voice
20 print of the relevant user.

Thus, a hacker having a stolen or cloned card cannot usurp the identity of the legitimate user.

By this combination of means, the voice recognition algorithms are simplified as the voice print which should be
25 validated, has been located in the database. The voice recognition operation consists of checking whether phonemes pronounced by the user properly match a known voice print. This is no longer a search, as in traditional voice recognition processes, for a voice print starting with a few phonemes,
30 from tens of thousands of others.

Preferably, the identification acoustical signals emitted by the card are invariable.

Preferably, according to another feature of the method according to the invention, the acoustical signal emitted by the

mobile object is invariable. Advantageously, it comprises a large number of digits, e.g. 30-100 digits.

Advantageously, the voice print is recorded in the data base upon initialization of the mobile object.

5   Advantageously, in a first embodiment, the phonemes are predetermined. For example, these are a sequence of words and/or of figures which the user reads on one of the faces of the mobile object.

Advantageously, in a second embodiment, the phonemes

10   are defined by the computer department of the provider-user. They are calculated by computing means of the computer department, notably depending on the voice print. The voice recognition operation is then facilitated. The phonemes thus defined by the computer department may change according to

15   the convenience of the user providing services. During the identification phase, the phonemes are transmitted to the user who must repeat them in the microphone.

The invention also relates to a system providing secure and rapid identification of a user of a communications

20   network by another user of said communications network, notably a service provider-user providing services to said user.

The system comprises mobile objects made available to the users, notably a card with a credit card format, customized by identifiers specific to each mobile object and to each user.

25   Each mobile object includes means for emitting short identification acoustical signals, notably of the DTMF type. They are actuated by the user by means of a component accessible from the outside of the mobile object, notably a button.

30   The system includes microphones, notably microphones of telephone sets, connected to said communications network. The microphones are:

* on the one hand, for receiving and transforming said identification acoustical signals from said mobile objects, into

first electronic signals which may be remotely transmitted by means of said communications network,

   * on the other hand, for receiving and transforming phonemes emitted in clear by the users, into second electronic signals which may be remotely transmitted by means of said communications network.

The system also comprises computing means, depending on the computer departments of the provider-user, connected to the communications network.

Said computing means comprise:

   - a data base containing the voice prints of the users,

   - first processing means including means for extracting from said first signals, the location of the area of the data base containing the identifiers and the voice print of the relevant user,

   - second processing means including means for extracting from said second signals a representative signal of the voice print of the user,

   - comparison means including means for comparing the voice print of the user contained in the data base with said representative signal of the voice print extracted from said second signal.

Advantageously, the system comprises recording means for recording the voice print in said data base upon initialization of the mobile object.

Also advantageously, according to a first embodiment, said phonemes are predetermined.

Advantageously, according to a second embodiment, the computer department comprises calculating means for calculating said phonemes and transmission means for transmitting said phonemes to a loudspeaker located in the vicinity of the user.

Other features and advantages of the invention will become apparent upon reading the description of

embodiments of the invention, given by way of example, as indicative and non-limiting, and of the figures wherein:

- figure 1 shows a schematic perspective view of the system and of the method according to the invention,

5   - figure 2 shows the mobile object as a block diagram.

The system and the method according to the invention enable the client 11 (otherwise referred to by the user name) to securely and rapidly call, notably from a telephone booth 31, by means of a telephone handset 16, including a

10   microphone 17, the services 30 that the provider-user, for example a telecommunications operator (the operator) 12, makes available to his/her clients 11. The telephone handset 16, remotely located from the computer departments 18 of the operator, is connected to the computer departments via a

15   communications network 15.

The system comprises a mobile object. In the case described as an example, the mobile object is a card 10 with a credit card format. This card 10 is customized by identifiers specific to each card and to each client 11. This card is made

20   available to the clients of operator 12. Card 10 includes emission means, notably a loudspeaker 13 emitting short identification acoustical signals 20 of the DTMF type. These signals are emitted when the emission means 13 and the units which control them, are actuated by the client by means of a

25   button 14 accessible from the outside of the card (not visible in figure 1 as it is located on the other side of the card). These emission means 13 are energized by a DTMF signal generator 99, controlled by a microprocessor 104 powered by a battery 106 and driven by a resonator 107.

30   The microprocessor 104 contained in the card includes encrypting means 103 for encrypting the acoustical signals 20 at least partly. The microprocessor 104 contains an encrypting algorithm 108 and identifiers 109, specific to each card 10 and to each client 11. Notably, the secret key 250 used by the

encrypting algorithm 108 appears among the data contained in the card.

The acoustical signals 20 are received by the microphone 17 of the telephone handset, against which the client places the card 10. The system also comprises transmission means 19 for acoustical signals 20. These transmission means 19 are located in the handset 16. These transmission means 19 remotely transmit the acoustical signals 20, after their processing and conversion into the first electronic signals, via the communications network 15.

Moreover, the legitimate bearer of the card has a series of phonemes which appear as words or figures. He/she has received these phonemes upon purchasing the card or customization of the latter. He/she may also receive these phonemes from the service provider during the identification phase. They are transmitted to him/her, via the communications network 15, by means of a loudspeaker such as that 17a of a telephone handset. The user pronounces these phonemes aloud in the microphone 17. The transmission means 19 remotely transmit the sounds matching the phonemes, after processing and conversion into the second electronic signals.

The system also comprises computing means 21, depending on the computer departments 18 of the operator. These computing means are connected to the communications network 15 and remotely located from the telephone handsets 16. They receive the first and second electronic signals.

The computing means 21 themselves comprise a data base 23 containing in specific memory areas, the identifiers of the card 10 and the voice print of the legitimate bearer of the card. This voice print may be recorded in different ways. For example, upon the initialization phase, the user calls the service provider-user whose computer department 18, under the pretext of checking the data of his/her file, has him/her

talking without his/her being aware about it and thus records the voice print of the user.

The computer means 21 also comprise processing means 24 and comparison means 25 for the electronic signals and identification data and voice print parameters contained in the data base. These processing means 24 comprise voice recognition means 230 (known *per se*) which extract from the second electronic signals, the phonemes transmitted in clear by the user to the microphone 17. In real time, as phonemes are pronounced, the values of the parameters are gradually established, by an analysis of the neuron network type. They are permanently compared with those stored in the data base 23. As soon as a consistency threshold is exceeded, the computer departments set the user in communication with the services of the provider-user. Indeed, the user is recognized as the legitimate bearer of the card. The consistency threshold is adjustable and of the 90%, 99%, 99.9% type. The time for establishing this consistency is measured in one or more seconds.

The voice recognition operation is facilitated by the fact that the system knows the voice print, the presence of which should be checked in the second electronic signals.

The vocal transmission of identification phonemes by means of the microphone of the telephone handset provides several advantages:

- the user does not have to perform any manual operation, as this was the case when he had to use a keyboard for inputting a private confidential identification code (pin code),

- the user does not have to remember a pin code which may include more than 10 figures in certain cases for reasons of security, the user repeats the phonemes which are given to him by the computer departments or those which he/she has noted on a memorandum book,

- certain telephone handset keyboards 27 do not allow any function other than that of dialing the call number of a callee, their use would be impossible for transmitting an alphanumeric code.

5   In another embodiment, also in order to reinforce the security of the system and to avoid that the client may question the order which he/she has given to the operator, the system according to the invention is such that:

- the card 10 emits, when it is actuated 14 by the
10   subscriber, an encrypted acoustical signal validating the orders given by the subscriber 11,

- said computing means 21 comprise detection 21a and recording 21b means for the validation signal.

       With this system, the client has validated through an
15   electronic signature, the order which he/she has given to the telecommunications operator.

       Advantageously in this case, the computing means 21 further comprise means for editing 28 an acknowledgement 29 of the given orders. This acknowledgement is sent to the
20   subscriber 11.

CLAIMS

1. A method enabling a user (11) of a communications network (15), having a microphone (17) connected to said communications network, to be securely and rapidly identified by another user (12) of said communications network, notably

5   a provider-user providing services (30) to said user;

said method comprising the following steps:

- the provider-user makes available to each of the relevant users, a mobile object (10), notably a card with the credit card format, customized by identifiers specific to each

10   user and to each mobile object,

- said mobile object emits short identification acoustical signals notably of the DTMF type, when it is actuated by the user, notably by means of a button (14),

- the identification acoustical signals are received by the

15   microphone and converted into electrical signals, before being transmitted (19) via the communications network to the computer department (18) of the provider-user,

- the computer department of the provider-user manages a data base (23) containing the voice prints of the

20   users,

- the computer department of the provider-user extracts (21, 24) from the received electrical signals, the location of the area of the data base containing the identifiers and the voice print of the relevant user,

- the user emits in clear a series of phonemes, by means of said microphone; after transmission to the computer department of the provider-user, via the communications network, said phonemes are processed (21, 24) by voice recognition means and the resulting signal is compared (25) with said voice print of the relevant user, *(so that a hacker having a stolen or cloned card will not be able to usurp the identity of the legitimate bearer).*

2. The method according to claim 1, characterized in that the identification acoustical signals emitted by the card are invariable.

3. The method according to any of the claims 1 or 2, characterized in that the voice print is recorded in said data base during initialization of the mobile object.

4. The method according to any of the claims 1 to 3, characterized in that said phonemes are predetermined.

5. The method according to any of the claims 1 to 3, characterized in that said phonemes are defined by the computer department of the provider-user and repeated by the user in the microphone during the identification phase.

6. A system enabling a user (11) of a communications network (15) to be securely and rapidly identified by another user (12) of said communications network, notably a user-service provider, providing services (30) to said user,

said system comprising:

- mobile objects (10) made available to the users, notably a card with a credit card format, customized by identifiers specific to each mobile object and to each user; said mobile object including means for emitting (13) short identification acoustical signals, notably of the DTMF type, actuated by the user by means of a component (14) accessible from the outside of the mobile object, notably a button,

- microphones (17), notably microphones of telephone sets, connected to the said communications network,

 * on the one hand, for receiving and transforming (14) said identification acoustical signals from said mobile objects into first electronic signals which may be remotely transmitted by means of said communications network,

5   * on the other hand, for receiving and transforming (19) phonemes emitted in clear by the users, into second electronic signals which may be remotely transmitted by means of said communications network (15);

said system also comprising:

10   - computing means (21), depending on the computer departments (18) of the provider-user, connected to the communications network;

said computing means comprising:

- a data base (23) containing the voice prints of the

15 users,

- first processing means (24) including means for extracting from said first signals, the location of the area of the data base containing the identifiers and the voice print of the relevant user,

20   - second processing means (24) including means for extracting said second signals, a representative signal of the voice print of the user,

- comparison means (25) including means for comparing the voice print of the user contained in the data

25 base with said representative signal of the voice print extracted from said second signals.

7. The system according to claim 6, characterized in that said identification acoustical signals emitted by said mobile objects are invariable.

30   8. The system according to any of claims 6 or 7, characterized in that it comprises recording means for recording the voice print in said data base during initialization of the mobile object.

9. The system according to any of claims 6 to 8,

35 characterized in that said phonemes are predetermined.

10. The system according to any of claims 6 to 8, characterized in that the computer department comprises calculating means for calculating said phonemes and transmission means for transmitting said phonemes to a loud

5   speaker (17a) located in the vicinity of the user.

COMBINED DECLARATION AND POWER OF ATTORNEY

IN NATIONAL PHASE APPLICATION

Attorney Docket No.

A56.12-0001

SPECIFICATION AND INVENTORSHIP IDENTIFICATION

As a below named inventor, I declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and joint inventor of the subject matter which is claimed, and for which a patent is sought, on the invention entitled METHOD AND SYSTEM FOR SECURE AND FAST VOICE IDENTIFICATION OF A NOMADIC OBJECT EMITTING AN AUDIBLE SIGNAL the specification of which,

(check one) X is attached hereto.
X was filed on December 17, 200 as Appln. No. 10/018,602 .
___ and was amended on _____ .
X was described and claimed in PCT International Application No. PCT/FR00/01680 filed on June 16, 2000 and as amended under PCT Article 19 on _____ .

ACKNOWLEDGEMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I have reviewed and understand the contents of the above identified application, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is known to me to be material to the patentability of this application in accordance with 37 C.F.R. § 1.56.

PRIORITY CLAIM (35 U.S.C. § 119)

Prior Foreign Application(s)

I claim foreign priority benefits under 35 U.S.C. § 119(a-d) of any foreign application(s) for patent or inventor's certificate listed below, each of which is incorporated by reference in its entirety, , each of which is incorporated by reference in its entirety, and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Number	Country	Day/Month/Year Filed	Priority Claimed
99 07869	France	16 June 1999	Yes X No___
			Yes___ No___

Prior Provisional Application(s)

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States Provisional Application(s) listed below, each of which is incorporated by reference in its entirety:

Number	Day/Month/Year Filed
_____	_____
_____	_____

PRIORITY CLAIM (35 U.S.C. § 120)

I claim the benefit under 35 U.S.C. § 120 of any United States application(s) listed below, each of which is incorporated by reference in its entirety. Insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose to the Patent Office all information known to me to be material to patentability as defined in 37 C.F.R. § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

Appln. No.	U.S. Appl. No. (if any under PCT)	Filing Date	Status
_____	_____	_____	_____
_____	_____	_____	_____

DECLARATION

I declare that all statements made herein that are of my own knowledge are true and that all statements that are made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY

I appoint the following attorneys and agents to prosecute the patent application identified above and to transact all business in the Patent and Trademark Office connected therewith, including full power of association, substitution and revocation: Judson K. Champlin, Reg. No. 34,797; Joseph R. Kelly, Reg. No. 34,847; Nickolas E. Westman, Reg. No. 20,147; Steven M. Koehler, Reg. No. 36,188; David D. Brush, Reg. No. 34,557; John D. Veldhuis-Kroeze, Reg. No. 38,354; Deirdre Megley Kvale, Reg. No. 35,612; Theodore M. Magee, Reg. No. 39,758; Christopher R. Christenson, Reg. No. 42,413; Brian D. Kaul 41,885; Robert M. Angus, Reg. No. 24,383; Christopher L. Holt, Reg. No. 45,844; Alan G. Rego, Reg. No. 45,956; and David C. Bohn, Reg. No. 32,015.

I ratify all prior actions taken by Westman, Champlin & Kelly, P.A. or the attorneys and agents mentioned above in connection with the prosecution of the above-mentioned patent application.

DESIGNATION OF CORRESPONDENCE ADDRESS

Please address all correspondence and telephone calls to **Robert M. Angus** in care of:

WESTMAN, CHAMPLIN & KELLY, P.A.
Suite 1600 - International Centre
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312

Inventor: _____ Date: 21.01.02
(Signature)

Inventor: __Franck Rosset_____
(Printed Name)

Residence: __Paris, France__ Citizenship: __France__

P.O. Address: __96 Boulevard Beaumarchais, Paris, France 75011__

Inventor: _____
                    (Signature)

Date: 21 / 01 / 2002

Inventor: ___Alain Gayet_____
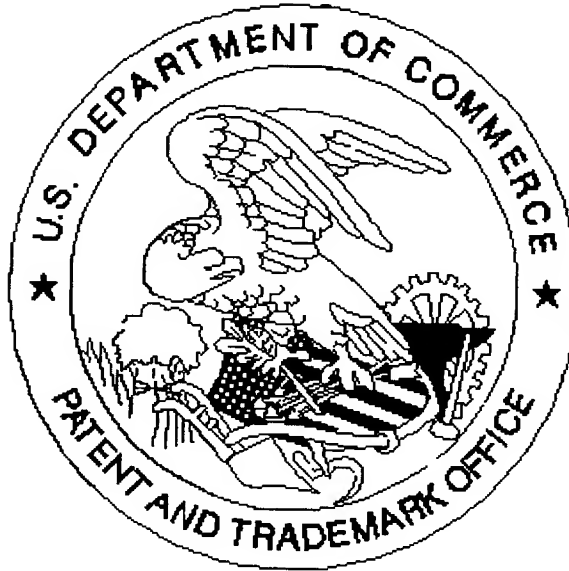   (Printed Name)

Residence: ___Courbevoie, France FRX___

Citizenship: ___France___

P.O. Address: ___13 Place des Dominos, Courbevoie, France 92400___

United States Patent & Trademark Office
Office of Initial Patent Examination -- Scanning Division

Application deficiencies found during scanning:

☑ Page(s)_____of___Drawing_____ were not present
for scanning.
<div style="text-align:center">(Document title)</div>

☐ Page(s)_____of_____were not present
for scanning.
<div style="text-align:center">(Document title)</div>

❑ *Scanned copy is best available.*